Claims :

1.   A method of diagnosing and/or identifying REM sleep loss in a mammal which comprises obtaining a blood sample of the mammal, isolating the serum from the said blood sample, allowing the mammal to undergo adequate sleep, obtaining a second blood sample

5   from said mammal, isolating the serum from said second blood sample, subjecting said first and second serum samples to electrophoresis, comparing the results of said electrophoresis of said first and second serum samples, a reduction of ~200kDa protein band in the first serum sample as compared to the second serum sample indicating REM sleep deprivation in said mammal.

10   2.   A method as claimed in claim 1 wherein said protein is glycosylated protein.

3.   A method as claimed in claim 2 wherein said glycosylated protein is Alpha −1 proteinase inhibitor-III variant I.

4.   A method as claimed in claim 1 wherein said protein has the sequence shown in Seq ID #1.

15   5.   A method as claimed in claim 1 wherein said mammal is a rat.

6.   A method as claimed in claim 1 wherein said mammal is a human.

7.   A molecular marker for use in the identification and/or diagnosis of REM sleep deprivation, said molecular marker is a glycosylated protein.

8.   A molecular marker as claimed in claim 7 wherein said glycosylated protein is Alpha

20   −1 proteinase inhibitor-III variant I.

9.   A molecular marker as claimed in claim 7 wherein said protein has an amino acid sequence as shown in Seq. ID # 1.